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Koplow

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(54) **AXIAL FLOW HEAT EXCHANGER DEVICES
AND METHODS FOR HEAT TRANSFER
USING AXIAL FLOW DEVICES**

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See application file for complete search history.

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(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
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(57) **ABSTRACT**

Systems and methods described herein are directed to rotary heat exchangers configured to transfer heat to a heat transfer medium flowing in substantially axial direction within the heat exchangers. Exemplary heat exchangers include a heat conducting structure which is configured to be in thermal contact with a thermal load or a thermal sink, and a heat transfer structure rotatably coupled to the heat conducting structure to form a gap region between the heat conducting structure and the heat transfer structure, the heat transfer structure being configured to rotate during operation of the device. In example devices heat may be transferred across the gap region from a heated axial flow of the heat transfer medium to a cool stationary heat conducting structure, or from a heated stationary conducting structure to a cool axial flow of the heat transfer medium.

(52) **U.S. Cl.**
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8 Claims, 8 Drawing Sheets

